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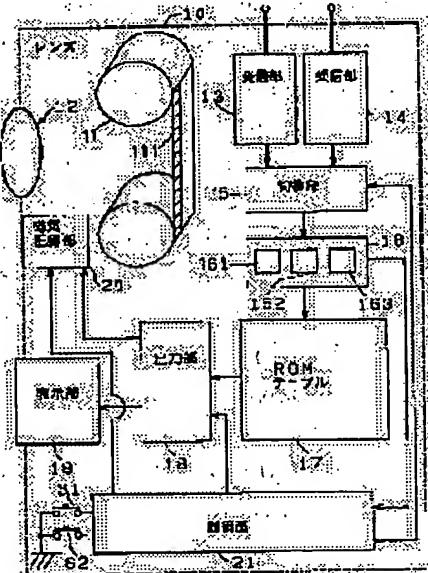
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(54) IMAGE PICKUP DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an image pickup device small in size, reduced in power consumption, excellent in portability and capable of specifying a photographed place.

SOLUTION: This image pickup device is provided with a silver salt film 11 for picking up an optical image, receiving means 13 and 14 for receiving radio waves including the identification information of the base station radiated from that base station, ID information extracting part 163 for extracting the identification information out of the signal received by the receiving means 13 and 14, a ROM table 17 for storing the identification information of respective plural base stations together with place information related to the places of these base stations, and an output means 18 for sending out the place information stored in the ROM table 17 based on the identification information extracted by the ID information extracting part 163.



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CLAIMS

[Claim(s)]

[Claim 1] An image pick-up means to picturize an optical image, and a receiving means to receive the electric wave containing the identification information of the base station emitted from a base station, An extract means to extract said identification information out of the signal received with said receiving means, Image pick-up equipment characterized by having a storage means to memorize each identification information of two or more of said base stations with the location information relevant to the installation of the base station, and an output means to send out the location information memorized by said storage means based on the identification information extracted with said extract means.

[Claim 2] In image pick-up equipment connectable with the receiving set which has a receiving means to receive the electric wave containing the identification information of a base station to the base station emitted An extract means to extract said identification information out of the signal received with said receiving means, Image pick-up equipment characterized by having a storage means to memorize each identification information of two or more of said base stations with the location information relevant to the installation of the base station, and an output means to send out the location information memorized by said storage means based on the identification information extracted with said extract means.

[Claim 3] In image pick-up equipment according to claim 1 or 2 said receiving means They are 1st and 2nd receiving means by which the methods of radiotelephony differ. Said image pick-up equipment Based on predetermined reference voltage or a predetermined current, it has further a judgment means to judge the quality of the receive state of said 1st receiving means at least. Said extract means When the receive state of said 1st receiving means is judged by said judgment means to be good Image pick-up equipment characterized by extracting said identification information out of the signal received with said 2nd receiving means when said identification information is extracted out of the signal received with said 1st receiving means and the receive state of said 1st receiving means is judged by said judgment means to be no.

[Claim 4] Image pick-up equipment characterized by having further a record means to be interlocked with photography actuation and to record the location information sent out to either of claims 1-3 from said output means in the image pick-up equipment of a publication on the record medium which can record informational.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the image pick-up equipment which can record the photoed image with the information on the photography ground etc.

[0002]

[Description of the Prior Art] In recent years, what the car navigator which built in GPS (Global Positioning System) is sold, and was applied to the camera is proposed (JP,3-247081,A).

[0003] There is an advantage that an image pick-up location can be pinpointed by building in a GPS receiver.

[0004] Moreover, the search system of the wandering old man using PHS (Personal Handyphone System) of mobile communications which is a formula on the other hand is known. This search system checks that old man's location by making an old man with a fugue possess a terminal, and receiving the reply from that terminal in a base station. As for what built in the above-mentioned GPS receiver for this to pinpoint an image pick-up location, the purposes differ fundamentally.

[0005]

[Problem(s) to be Solved by the Invention] However, with the camera which contained the above GPS receivers, enlargement of a camera must be caused, and a cell with weight heavy since power consumption is large must be carried, and the technical problem that portability falls occurs.

[0006] This invention was made in view of the above-mentioned situation, can attain miniaturization and power-saving, and aims at offering the image pick-up equipment excellent in portability which can pinpoint a photography location.

[0007]

[Means for Solving the Problem] This invention according to claim 1 for solving the above-mentioned technical problem An image pick-up means to picturize an optical image, and a receiving means to receive the electric wave containing the identification information of the base station emitted from a base station. An extract means to extract said identification information out of the signal received with said receiving means, It is image pick-up equipment equipped with a storage means to memorize each identification information of two or more of said base stations with the location information relevant to the installation of the base station, and an output means to send out the location information memorized by said storage means based on the identification information extracted with said extract means.

[0008] In this invention of this configuration, said output means sends out the location information memorized by said storage means based on said identification information extracted by said extract means out of the signal received with said receiving means.

[0009] In the image pick-up equipment which can connect this invention according to claim 2 to the receiving set which has a receiving means to receive the electric wave containing the identification information of the base station emitted from a base station An extract means to extract said identification information out of the signal received with said receiving means, It is image pick-up equipment equipped with a storage means to memorize each identification information of two or more of said base stations with the location information relevant to the installation of the base station, and an output means to send out the location information memorized by said storage means based on the identification information extracted with said extract means.

[0010] In this invention of this configuration, said output means sends out the location information memorized by said storage means based on said identification information extracted by said extract

means out of the signal received with the receiving means which said receiving set has.

[0011] Said receiving means are 1st and 2nd receiving means by which the methods of radiotelephony differ. In addition, said image pick-up equipment Based on predetermined reference voltage or a predetermined current, it has further a judgment means to judge the quality of the receive state of said 1st receiving means at least. Said extract means When the receive state of said 1st receiving means is judged by said judgment means to be good When said identification information is extracted out of the signal received with said 1st receiving means and the receive state of said 1st receiving means is judged by said judgment means to be no, you may make it extract said identification information out of the signal received with said 2nd receiving means.

[0012] In this invention of this configuration, said extract means extracts said identification information out of the signal received with said 2nd receiving means, when said identification information is extracted out of the signal received with said 1st receiving means when the receive state of said 1st receiving means was judged by said judgment means to be good and the receive state of said 1st receiving means is judged by said judgment means to be no.

[0013] Moreover, you may make it said image pick-up equipment further equipped with a record means to be interlocked with photography actuation and to record the location information sent out from said output means on the record medium which can record informational.

[0014] In this invention of this configuration, said record means is interlocked with photography actuation, and records the location information sent out from said output means on said record medium.

[0015]

[Embodiment of the Invention] It explains referring to drawing 1 which is the block diagram about the gestalt of operation of the 1st of this invention hereafter. The image incorporation method of the camera 10 in the gestalt of this operation is a film photo method, and the magnetic-recording field 111 where the magnetic substance was applied to the silver halide film 11 used for a camera 10 along with the longitudinal direction of an end at least can be formed, and it can carry out magnetic recording of the information now there. A lens 12 is a lens group as the image pick-up section, and carries out image formation of the optical image of a photographic subject on a silver halide film 11 in the case of photography. Thereby, the optical image of a photographic subject is picturized.

[0016] A receive section 13 is a dipole antenna which receives the electric wave which comes from the base station by the predetermined system of the communication service for individuals. Hereafter, a receive section 13 explains as what receives the electric wave (for example, electric wave of the 20mW Koide force) which comes from the base station of PHS which is one of the systems in public mobile service of Japan.

[0017] A receive section 14 is a dipole antenna which receives the high power electric wave which comes from the base station of a land mobile radiotelephone. The change-over section 15 is a switch for connecting a receive section 13 or a receive section 14 to the distinction section 16.

[0018] The distinction section 16 is constituted by the ID information extract section 163 which extracts the ID information on a base station indicate the transmitting origin included in the signal to which it restored to be the recovery section 162 to which detects the signal received in the judgment section 161 which judges whether the receive state of the electric wave received in the receive section 13 or the receive section 14 is good based on predetermined reference voltage, and the receive section 13 or the receive section 14 connected by the change-over section 15, and it restores. As compared with predetermined reference voltage, if a received electrical potential difference is more than predetermined reference voltage, the judgment section 161 will judge the received electrical potential difference received in the receive section 13 or the receive section 14 as the receive state of an electric wave being good, otherwise, will judge that it is not [the receive state of an electric wave] good. In addition, the judgment method which proofreads not only this judgment method but the gain as a receive section with predetermined reference voltage, and carries out permutation measurement with an attenuator may be used. In short, the judgment section 161 cannot ask a method but can judge the

quality of the receive state of the electric wave received in the receive section 13 or the receive section 14 based on predetermined reference voltage or a predetermined current.

[0019] Here, it explains, referring to drawing 2 which shows the image about the zone which can receive the electric wave which comes from the base stations of PHS and a land mobile radiotelephone. Each of the frame "A" drawn with the thin line, "B", "C", "D", "E", and "F" shows the zone where the camera 10 used as a mobile station can receive the electric wave which comes from the base station of a land mobile radiotelephone in which it is located near the core of a thin line frame. Each frame drawn by the thick wire shows the zone where the camera 10 used as a mobile station can receive the electric wave which comes from the base station of PHS in which it is located near the core of a thick-wire frame. Since the zone by each base station is narrow in the case of PHS, the location information assigned to ID information on a base station will become detailed, but as shown in drawing 2, the service area (field surrounded by all thick wires) of PHS is restricted to a specific location (generally main city) narrower than the service area (A**B**C**D**E**F) of a land mobile radiotelephone.

[0020] In drawing 2, when there is no camera 10 into the service area of PHS, it judges with the distinction section 16 not having a good receive state. However, if a camera 10 is in the service area of a land mobile radiotelephone in this case, although the location information which can be extracted turns into location information rougher than the location information by PHS, the location information assigned to ID information on the base station of a land mobile radiotelephone will be displayed on a display 19. Even when detailed location information is given priority to and chosen and the detailed location information is not acquired, a control section 21 controls by the gestalt of this operation so that rough location information is acquired.

[0021] Returning to drawing 1, the ROM table 17 is memory which associated the location information in which the base station where this ID information was assigned with ID information on the base stations of PHS and a land mobile radiotelephone was installed in the table format, and has memorized it. For example, if ID information is assigned to the base station installed in Sannomiya of Kobe-shi, the ROM table 17 will have memorized the location information of "Kobe" and "Sannomiya" with the ID information.

[0022] It explains referring to drawing 3 which shows the file format of location information about the detail of this location information. The table B which consists of two or more elements is assigned to each element of the table A which serves as parents. The table C which consists of two or more elements is assigned to each element of Table B. The table D which consists of two or more elements is assigned to each element of Table C. The most significant 1-bit in Table A shows the location name of domestic or a foreign country. 6 bits of the degree in Table B show location names, such as each district, such as "Kinki", "China", and "Shikoku", and all prefectures. 6 bits of the degree in Table C show location names, such as a city and a county. The triplet of the low order in Table D shows location names, such as towns and villages and a famous place. The location information in the gestalt of this operation is constituted by the 16-bit data which any one element contained in each table of such a hierarchical file format connected. In addition, although reception of the electric wave of a land mobile radiotelephone is good, when reception of the electric wave of PHS is not good, a low-ranking triplet is set to 0.

[0023] By returning to drawing 1, the output section 18 reads the location information on a base station that ID information extracted by ID information extract section 163 of the distinction section 16 was assigned from the ROM table 17, this location information is sent out to a display 19, and that location information is encoded and this encoded location information is sent out to the magnetic-recording section 20.

[0024] A display 19 is a liquid crystal display panel for displaying the location information sent out from the output section 18 etc.

[0025] It explains referring to drawing 4 which shows that example of a display about the display displayed on this display 19. A photography location and its date of photography that day are displayed

in an order from the display 19 top prepared in the tooth back of a camera 10. The date data of an internal clock are used for the date displayed. Moreover, it is also possible to input the name (for example, finishing [by a diagram / name-of-a-person "/*"]) of a photographic subject by the manual. With the gestalt of this operation, even when a camera 10 is in the service area of PHS, it is always initialized so that the location name of the table C of drawing 3 may be displayed.

[0026] It explains referring to drawing 5 which is that explanatory view, and drawing 4 about the device in which the location name displayed by this initial setting is changed. In drawing 4, the case where it is located in "Sannomiya" in "Kobe" which has a camera 10 in the service area of PHS and a land mobile radiotelephone is explained. In this case, the location name of "Kobe" applicable to Table C is usually displayed on the right column of the "photography location" of a display 19. If a carbon button 22 is pushed at this time, the display of the right column of the "photography location" of a display 19 will be changed into the display of "Sannomiya" pinpointed by PHS from "Kobe" pinpointed with the land mobile radiotelephone.

[0027] Although the receive state of the electric wave of a land mobile radiotelephone is good, a camera 10 When the receive state of the electric wave of PHS is not good, for example, it is located indoors etc., If a carbon button 26 is pushed when the operator of a camera 10 wants to choose the location name applicable to Table D as arbitration, and the distant landscape is being photoed with the telephoto lens, three location names applicable to Table D will be displayed on the lower column of a "photography location" as a candidate like drawing 5. These three location names are changed into another location name extracted from Table D by turning a dial 27 according to that hand of cut and rotation. If a dial 27 is turned clockwise and the next candidate will turn counterclockwise, the previous candidate will be displayed on a display 19. If the carbon button with which it corresponds of the carbon buttons 23-25 if there is a location name applicable to three location names currently displayed on the display 19 is pushed, the location name will be chosen. If a carbon button 23 is pushed, the top location name will be chosen, if a carbon button 24 is pushed, the location name of middle will be chosen, and if a carbon button 25 is pushed, the bottom location name will be chosen.

[0028] Moreover, also when a camera 10 is in the location with which the receiving zone of plurality, for example, three PHS, laps, three location names according to a receiving zone are displayed on the lower column of a "photography location", and selection becomes possible with carbon buttons 23-25. If the number of the receiving zones with which it laps is two, the location name displayed is set to two, and in the case of four or more, three of them are displayed, the remaining location names are displayed on them according to rotation of a dial 27, and it can choose a desired location name as them.

[0029] Returning to drawing 1, the magnetic-recording section 20 records the encoded location information which is sent out from the output section 18 on the magnetic-recording field 111 of a silver halide film 11. A control section 21 is a microprocessor which controls the camera 10 at large, sends out the change-over control signal for replacing with a receive section 13 and connecting a receive section 14 to the judgment section 16, when the judgment section 161 judges that the receive state of the electric wave received in the receive section 13 is not good to the change-over section 15, and performs write-in control of the magnetic-recording section 20 etc. A switch S1 is a switch for detecting half-push [the release carbon button 28], and a switch S2 is a switch for detecting all push [the release carbon button 28].

[0030] Next, it explains, referring to drawing 6 which is the flow chart about actuation of the gestalt of this operation.

[0031] If the power source of a camera 10 is turned on (step # 1), are half-push [the release carbon button 28] and the check of whether a switch S1 is an ON state will be made (step # 5). In addition, photography preparations will be made if half-push [the release carbon button 28]. If a switch S1 is an OFF state, a control section 21 will check whether the power source of a camera 10 has been made into an OFF state (step # 70). If the power source of a camera 10 is an OFF state, a control section 21 will go into the mode in which power consumption is reduced, and will go into sleeping which detects only

the specific actuation to a control section 21 (step # 75). On the other hand, if the power source of a camera 10 is not an OFF state, it will return to step #5.

[0032] Step # If a switch S1 is an ON state in 5, power will be supplied to the PHS receive section constituted by a receive section 13, the change-over section 15, and the distinction section 16, and the PHS receive section will start (#10). Since power is not supplied to a PHS receive section by this unless a switch S1 is turned on, the consumption of power can be reduced. Subsequently, the judgment section 161 of the distinction section 16 judges whether the receive state of the electric wave received in the receive section 13 based on the predetermined electrical potential difference (sensitivity level) set up beforehand is good, for example (step # 15).

[0033] If ID information extract section 163 of the distinction section 16 has the good receive state, it will restore to the signal received in the receive section 13, and will extract ID information on the base station of PHS which is a transmitting agency from this signal to which it restored. The location information corresponding to this extracted ID information is read from the ROM table 17. The output section 18 sends out the location information read from the ROM table 17 to a display 19, and displays on a display 19 the location information assigned to ID information on the base station of PHS (step # 30). However, the location name applicable to the table C of drawing 3 is displayed by initial setting in this case. In addition, ID information extract section 163 extracts all them, when ID information on the base station of plurality, for example, three PHS, can be extracted. Or you may make it ID information extract section 163 extract ID information by which a receive state is included in the best electric wave.

[0034] On the contrary, if a receive state is not good, the receive section 13 by which a change-over control signal is sent out to the change-over section 15, and is being connected to the change-over section 15 will be switched to a receive section 14, and the land mobile radiotelephone receive section constituted by a receive section 14, the change-over section 15, and the distinction section 16 will start (step # 20). It judges whether the judgment section 161 of the distinction section 16 has the good receive state of the electric wave received in the receive section 14 (step # 25).

[0035] If ID information extract section 163 of the distinction section 16 has the good receive state of the electric wave received in the receive section 14, it will restore to the signal received in the receive section 14, and will extract ID information on the base station of the land mobile radiotelephone which is a transmitting agency out of this signal to which it restored. The location information corresponding to this extracted ID information is read from the ROM table 17. The output section 18 sends out the location information read from the ROM table 17 to a display 19, and displays on a display 19 the location information assigned to ID information on the base station of a land mobile radiotelephone (step # 30).

[0036] On the other hand, if the distinction section 16 does not have the good receive state of the electric wave received in the receive section 14, it will notify that to a control section 21. In order that the control section 21 which received this notice may tell an operator about the message of a purport which cannot pinpoint a photography location, it carries out blinking the alphabetic character of the "photography location" shown in drawing 4 etc., and performs a warning sign (step # 35).

[0037] Step # After passing through the procedure of 1 to #30, the location name which corresponds to the table C shown in drawing 3 by initial setting is displayed on a display 19. As the above-mentioned configuration explained, when the carbon button 26 shown in drawing 5 is pushed at this time (step # 40), it can be needed for the display change-over operation mode ON (step # 45), and, thereby, an operator can choose the location name of arbitration from Table D (or the table C of initial setting). If this display change-over actuation is completed, it will progress to step #50. Moreover, also when a carbon button 26 is not pushed, it progresses to step 50.

[0038] In this condition, the check of whether a switch S2 is an ON state by all push of the release carbon button 28 is made (step # 50). If a switch S2 is an OFF state, it will shift to step #70.

[0039] If a switch S2 is an ON state, image pick-up actuation will be performed and the optical image of a photographic subject will be photoed by the silver halide film 11 (step # 55). After photography is

completed, a control section 21 sends out a write-in signal to the magnetic-recording section 20, and makes it feed with a silver halide film 11. Thereby, the magnetic-recording section 20 carries out magnetic recording of the signal with which the location information decided by step #30 or step #45 was encoded with a day entry, the information on a photographic subject, etc. to the magnetic-recording field 111 of the silver halide film 11 under winding-up feed actuation (step # 60).

[0040] Then, a control section 21 stops the supply of power to the PHS receive section of step #10, or the land mobile radiotelephone receive section of step #20, and stops actuation of a PHS receive section or a land mobile radiotelephone receive section (step # 65). Thereby, the consumption of power can be reduced. Then, it progresses to step #70.

[0041] According to the gestalt of the above operation, it becomes possible to copy the location name displayed on the display 19 in the lower right section of a photograph like for example, the date display.

[0042] In addition, although it was made to make actuation of a PHS receive section or a land mobile radiotelephone receive section start based on the ON state of a switch S1, you may make it make actuation of a PHS receive section or a land mobile radiotelephone receive section start with a switch other than a switch S1 with the gestalt of this operation. In this case, the next actuation begins, and the location information decided by that actuation may be made to be held until location information is newly measured.

[0043] Moreover, when the receive state of the electric wave of PHS is not good, 0 is written in the triplet of the low order of the measured location information, but it is step #45, and when the location name of arbitration is chosen, the code applicable to the selected table D is written in.

[0044] Moreover, so that the location name of the table C of drawing 3 may be displayed, although [the gestalt of this operation] initialized If a camera 10 is in the service area of PHS, from the 16-bit location information specified using ID information on the base station of PHS Even if the location name applicable to Table D is extracted; and the extracted location name is displayed on a display 19 and there is no camera 10 into the service area of PHS As long as it is in the service area of a land mobile radiotelephone, the location name applicable to Table C is extracted from the 16-bit location information specified using ID information on the base station of a land mobile radiotelephone, and the extracted location name may be made to be displayed on a display 19.

[0045] Moreover, although [both the receive sections 13 and 14] it is a dipole antenna, they may be made to have further the receiving circuit which the antenna of another class is sufficient as, and includes a demodulator circuit etc., respectively with the gestalt of this operation. In this case, the change-over section 15 compares the signal to which it was received and the electric wave restored in each of receive sections 13 and 14, and a receive state chooses the signal of the better one, and you may make it the distinction section 16 extract ID information on a base station from the signal chosen by the change-over section 15. Moreover, receive sections 13 and 14 may be made to share one receiving antenna.

[0046] Moreover, although the camera 10 was equipped with receive sections 13 and 14, you may make it equipped with the receive section corresponding to the method of three or more kinds of radiotelephony with the gestalt of this operation according to the method of the radiotelephony made applicable to receiving.

[0047] Moreover, with the gestalt of this operation, although the distinction section 16 was equipped with the judgment section 161, it does not necessarily need to be equipped with this. That is, in an initial state, a receive section 13 and the judgment section 16 are connected, and the recovery section 162 detects the signal received in a receive section 13, and gets over. ID information extract section 163 extracts ID information on a base station which shows the transmitting origin included in the signal to which it restored. In this case, when ID information extract section 163 cannot extract ID information, that is notified to the change-over section 15 or a control section 21, and the change-over section 15 is replaced with a receive section 13, and you may make it connect a receive section 14 to the judgment section 16 according to that. Or when higher than a bit error rate predetermined in the bit error rate at

the time of ID information being extracted by ID information extract section 163, as for ID information extract section 163, that is notified at the change-over section 15 or a control section 21, the change-over section 15 is replaced with a receive section 13 according to that, and you may make it connect a receive section 14 to the judgment section 16.

[0048] Furthermore, although it was made for a control section 21 to operate based on the flow chart of drawing 6, you may make it operate with the gestalt of this operation based on the flow chart shown in drawing 7. The flow chart of drawing 7 deletes step #5 and step #65 from the flow chart of drawing 6. In drawing 7, if the power source of a camera 10 is made into an ON state, power will be supplied immediately and a PHS receive section will start. Since the actuation which pinpoints a photography location only by making the power source of a camera 10 into an ON state by this is started, actuation becomes easy. Moreover, step #65 of drawing 6 are omitted, and if the power source of a camera 10 will be in an ON state, it will always be started any of a PHS receive section or a land mobile radiotelephone receive section they are. That is, drawing 6 is the flow chart which thought reduction of power consumption as important, and drawing 7 is the flow chart which thought the ease of actuation as important.

[0049] It explains referring to drawing 8 which is the block diagram about the gestalt of the 2nd operation of this invention. However, the same number is attached about the same part as the gestalt of the 1st operation, the explanation is omitted, and a different part from the gestalt of the 1st operation is explained. The image incorporation methods of the camera 100 in the gestalt of the 2nd operation are electronic charge recording systems, such as a video camera and a digital camera.

[0050] A lens 120 is a lens group which carries out image formation of the optical image of a photographic subject on CCD129. CCD129 is a CCD sensor which carries out photo electric conversion of the optical image which is carrying out image formation on the light-receiving side of self to a picture signal. The image-processing section 130 is a circuit which performs predetermined analog processing (processing of signal magnification, offset adjustment, etc.) to the picture signal which photo electric conversion was carried out and was acquired, changes into digital value (pixel data) each pixel signal included in a picture signal, and performs predetermined digital processing (processing of picture compression; such as the gradation amendment and MPEG which used black-level amendment, white-level amendment, LUT (look-up table), etc., and JPEG, etc.) to each of that pixel data. These lenses 120, CCD129, and the image-processing section 130 function as the image pick-up section which picturizes an optical image.

[0051] The Records Department 131 is a recording device which performs writing and read-out of information to semi-conductor storage devices, such as storages, such as a magnetic tape as a storage means, and MAG, a magneto-optic disk, or RAM, a memory card, etc., etc. The picture signal processed by the image-processing section 130 is recorded on the above-mentioned storage means by the Records Department 131 with the location information and the day entry which are sent out from the output section 18 and which were encoded, the information on a photographic subject, etc.

[0052] Next, it explains, referring to drawing 9 which is the flow chart about actuation of the gestalt of this operation. A camera 100 operates according to the almost same procedure as the flow chart of drawing 6 in the gestalt of the 1st operation. Hereafter, a different point from the gestalt of the 1st operation is explained.

[0053] Step # In 55, if a switch S2 is an ON state, CCD129 will carry out photo electric conversion of the optical image which is carrying out image formation on the light-receiving side of self to a picture signal. The image-processing section 130 performs predetermined analog processing (processing of signal magnification, offset adjustment, etc.) to the picture signal which photo electric conversion was carried out and was acquired, changes into digital value (pixel data) each pixel signal included in a picture signal, and performs predetermined digital processing (processing of picture compression, such as the gradation amendment and MPEG which used black level amendment, white-level amendment, LUT, etc., and JPEG, etc.) to each of that pixel data. Thus, the image pick-up of an optical image by which

image formation was carried out on CCD129 is performed. It is parallel to this and the output section 18 encodes the location information decided by step #30 or step #45 with a day entry, the information on a photographic subject, etc.

[0054] Then, the Records Department 131 records the image information processed by the image-processing section 130 and the encoded information which is sent out from the output section on the above-mentioned storage means (step # 61).

[0055] In addition, although the image-processing section 130 and the Records Department 131 change into a digital image signal the picture signal acquired by CCD129 and recorded it, they may be made to record an analog picture signal with the gestalt of the 2nd operation.

[0056] It explains referring to drawing 10 which is the block diagram about the gestalt of operation of the 3rd of this invention. However, the same number is attached about the same part as the gestalt of the 2nd operation, the explanation is omitted, and a different part from the gestalt of the 2nd operation is explained. The cellular-phone section 232 has a receive section 213 and a receive section 214, and is the cellular phone which can talk over the telephone independently. The cellular phone 232 is constituted removable by the camera 200 used as a body. A receive section 213 is a receiver with the dipole antenna which receives the electric wave which comes from the base station of PHS, and the demodulator circuit which restores to the signal received with this dipole antenna. A receive section 214 is a receiver with the dipole antenna which receives the electric wave which comes from the base station of a land mobile radiotelephone, and the demodulator circuit which restores to the signal received with this dipole antenna. In addition, the control line for controlling a cellular phone 232 is connected to a control section 21. Thereby, a control section 21 can make the power source of a cellular phone 232 turn on and off.

[0057] The change-over section 215 is a switching circuit which sends out the input signal which has the 1st input terminal for incorporating the input signal for small zones, the 2nd input terminal for incorporating the input signal for size (or inside) zones, and an output terminal, and was incorporated from the 1st or 2nd input terminal according to the control signal from a control section 21 from an output terminal. The output of the receive section 213 of the cellular-phone section 232 is connected to the 1st input terminal. The output of the receive section 214 of the cellular-phone section 232 is connected to the 2nd input terminal. It is constituted by the judgment section 2161 which judges whether the distinction section 216 has the good receive state of the input signal sent out from the output terminal of the change-over section 215 as compared with a predetermined signal, and ID information extract section 2162 which extracts ID information on the base station which is a transmitting agency from this input signal. In addition, by communalizing the receiving set used in order to talk over the telephone as a cellular phone, and the part which can be communalized as much as possible, a receive section 213 can reduce components mark and can make cost low.

[0058] Next, actuation of the gestalt of this operation is explained. A camera 200 operates according to the almost same procedure as the flow chart of drawing 9 in the gestalt of the 2nd operation. Hereafter, a different point from the gestalt of the 2nd operation is explained.

[0059] In step 10, if a switch S1 is an ON state in step #5, a control section 21 will make an ON state the power source of the cellular-phone section 232, will send out a change-over signal to the change-over section 215, and will connect a receive section 213 and the distinction section 216. Thereby, a PHS receive section starts (#10). Subsequently, it judges whether the judgment section 2161 of the distinction section 216 has the good receive state of the electric wave received in the receive section 213 based on the reference voltage (sensitivity level) set up beforehand, for example (step # 15).

[0060] If ID information extract section 2162 of the distinction section 216 has the good receive state, it will extract ID information on the base station of PHS which is a transmitting agency from the signal received in the receive section 213. The location information corresponding to this extracted ID information is read from the ROM table 17. The output section 18 sends out the location information read from the ROM table 17 to a display 19, and displays on a display 19 the location information

assigned to ID information on the base station of PHS (step # 30).

[0061] On the contrary, if a receive state is not good, a change-over signal will be sent out to the change-over section 215, a receive section 214 will be connected to the distinction section 216, and a land mobile radiotelephone receive section will start (step # 20). It judges whether the judgment section 2161 of the distinction section 216 has the good receive state of the electric wave received in the receive section 214 (step # 25).

[0062] If ID information extract section 2162 of the distinction section 216 has the good receive state of the electric wave received in the receive section 214, it will restore to the signal received in the receive section 214, and will extract ID information on the base station of the land mobile radiotelephone which is a transmitting agency out of this signal to which it restored. The location information corresponding to this extracted ID information is read from the ROM table 17. The output section 18 sends out the location information read from the ROM table 17 to a display 19, and displays on a display 19 the location information assigned to ID information on the base station of a land mobile radiotelephone (step # 30). About subsequent actuation, it is the same as that of the gestalt of the 2nd operation.

[0063] In addition, the camera and cellular phone used as a body may be unified. Moreover, when unifying, you may make it the power source of a cellular phone serve as ON by ON of a switch S1; and the electric power switch of a cellular phone may be prepared independently. Moreover, when the electric power switch of a cellular phone is ON, you may make it always display location information. Furthermore, when the electric power switch of a cellular phone is OFF, you may make it the power source of a cellular phone serve as ON by ON of a switch S1.

[0064] Moreover, although a system called "Japanese PHS" and Japanese "land mobile radiotelephone" in public mobile service was made into the example and the gestalt of the 3rd operation explained, it from the above 1st, it cannot be overemphasized that this invention can be applied not only to these systems but to the alien system of present or the future or another system of other countries.

[0065]

[Effect of the Invention] According to this invention, miniaturization and power-saving can be attained and the image pick-up equipment excellent in portability which can pinpoint a photography location can be realized so that clearly from the above thing.

[Translation done.]

* NOTICES *

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1. This document has been translated by computer. So the translation may not reflect the original precisely.

2. **** shows the word which can not be translated.

3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram of the gestalt of operation of the 1st of this invention.

[Drawing 2] It is drawing showing the image of the zone which can receive the electric wave which comes from the base stations of PHS and a land mobile radiotelephone.

[Drawing 3] It is drawing showing the file format of location information.

[Drawing 4] It is the perspective view of a camera 10 and is drawing showing the example of a display displayed on a display 19.

[Drawing 5] It is the perspective view of a camera 10 and is drawing showing another example of a display displayed on a display 19.

[Drawing 6] It is the flow chart of actuation of the gestalt of the 1st operation.

[Drawing 7] It is the flow chart which changed actuation by the flow chart of drawing 6 into easy actuation.

[Drawing 8] It is the block diagram of the gestalt of the 2nd operation of this invention.

[Drawing 9] It is the flow chart of actuation of the gestalt of the 2nd operation.

[Drawing 10] It is the block diagram of the gestalt of the 3rd operation of this invention.

[Description of Notations]

10,100,200 Camera

11 Silver Halide Film

12,120 Lens

13, 213, 14,214 Receive section

15,215 Change-over section

16,216 Distinction section

17 ROM Table

18 Output Section

19 Display

20 Magnetic-Recording Section

21 Control Section

129 CCD

130 Image-Processing Section

131 Records Department

232 Cellular-Phone Section

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[Translation done.]